

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently Amended) A method for generating spatialized audio
2 from non-three-dimensionally aware applications, comprising:
3 ~~intercepting parameters associated with audio use from an~~ intercepting a
4 ~~call to generate audio to a non-three-dimensional audio API from a non-three-~~
5 ~~dimensionally aware application, wherein the application does not include support~~
6 ~~for three-dimensional sound;~~
7 ~~using the intercepted parameters to obtain~~ obtaining location information
8 of a display window associated with the application within a three-dimensional
9 display;
10 calculating an audio source location for the audio from the application in a
11 three-dimensional sound space, wherein the audio source location is associated
12 with a location of the display window in the three-dimensional display; and
13 ~~positioning the audio at the audio source location using the call to the non-~~
14 ~~three-dimensional audio API and the calculated audio source location in a three-~~
15 ~~dimensional sound system to position audio from the application in a three-~~
16 ~~dimensional sound space, wherein the audio source location is associated with a~~
17 ~~location of the display window in the three-dimensional display.~~
- 1 2. (Original) The method of claim 1, wherein intercepting
2 information about audio use involves intercepting an audio stream from the
3 application.

1 3. (Original) The method of claim 1, wherein intercepting
2 information about audio use involves intercepting parameters associated with an
3 audio stream from the application.

1 4. (Original) The method of claim 1, wherein obtaining location
2 information of the display window associated with the application involves
3 determining a set of coordinates on the three-dimensional display where the
4 display window is located.

1 5. (Original) The method of claim 1, wherein calculating the audio
2 source location involves using the location of the display window to calculate
3 coordinates for the audio source location so that audio from the audio source
4 location appears to originate at the location of the display window.

1 6-8. (Cancelled)

1 9. (Original) The method of claim 1, further comprising reducing
2 audio volume of other applications when a given application is issuing a request
3 for a warning tone, wherein reducing audio volume of other applications causes
4 the warning tone from the given application to be predominant.

1 10. (Original) The method of claim 1, wherein when a given
2 application is issuing a request for user attention or the three-dimensional window
3 manager decides to get the user's attention to a certain application running in the
4 three-dimensional window, the method further comprises applying spatial audio
5 effects to the audio that the application is generating, wherein the spatial effects

6 include panning the audio source location in the three-dimensional space left and
7 right repeatedly and rapidly.

1 11. (Currently Amended) A computer-readable storage medium storing
2 instructions that when executed by a computer cause the computer to perform a
3 method for generating spatialized audio from non-three-dimensionally aware
4 applications, the method comprising:

5 ~~intercepting parameters associated with audio use from an~~ intercepting a
6 call to generate audio to a non-three-dimensional audio API from a non-three-
7 dimensionally aware application, wherein the application does not include support
8 for three-dimensional sound;

9 ~~using the intercepted parameters to obtain~~ obtaining location information
10 of a display window associated with the application within a three-dimensional
11 display;

12 calculating an audio source location for the audio from the application in a
13 three-dimensional sound space, wherein the audio source location is associated
14 with a location of the display window in the three-dimensional display; and

15 ~~positioning the audio at the audio source location using the call to the non-~~
16 three-dimensional audio API and the calculated audio source location in a three-
17 dimensional sound system to position audio from the application in a three-
18 dimensional sound space, wherein the audio source location is associated with a
19 location of the display window in the three-dimensional display.

1 12. (Original) The computer-readable storage medium of claim 11,
2 wherein intercepting information about audio use involves intercepting an audio
3 stream from the application.

1 13. (Original) The computer-readable storage medium of claim 11,
2 wherein intercepting parameters associated with audio use involves intercepting
3 information about an audio stream from the application.

1 14. (Original) The computer-readable storage medium of claim 11,
2 wherein obtaining location information of the display window associated with the
3 application involves determining a set of coordinates on the three-dimensional
4 display where the display window is located.

1 15. (Original) The computer-readable storage medium of claim 11,
2 wherein calculating the audio source location involves using the location of the
3 display window to calculate coordinates for the audio source location so that
4 audio from the audio source location appears to originate at the location of the
5 display window.

1 16-18. (Cancelled)

1 19. (Original) The computer-readable storage medium of claim 11, the
2 method further comprising reducing audio volume of other applications when a
3 given application is issuing a request for a warning tone, wherein reducing audio
4 volume of other applications causes the warning tone from the given application
5 to be predominant.

1 20. (Original) The computer-readable storage medium of claim 11,
2 wherein when a given application is issuing a request for user attention or the
3 three-dimensional window manager decides to get the user's attention to a certain
4 application running in the three-dimensional window, the method further
5 comprises applying spatial audio effects to the audio that the application is

6 generating, wherein the spatial effects include panning the audio source location
7 in the three-dimensional space left and right repeatedly and rapidly..

1 21. (Currently Amended) An apparatus for generating spatialized audio
2 from non-three-dimensionally aware applications, comprising:

3 an intercepting mechanism configured to intercept ~~parameters associated~~
4 ~~with audio use from an~~ a call to generate audio to a non-three-dimensional audio
5 API from a non-three-dimensionally aware application, wherein the application
6 does not include support for three-dimensional sound;

7 a location-obtaining mechanism configured to ~~use the intercepted~~
8 ~~parameters to~~ obtain location information of a display window associated with the
9 application within a three-dimensional display;

10 a calculating mechanism configured to calculate an audio source location
11 for the audio from the application in a three-dimensional sound space, wherein the
12 audio source location is associated with a location of the display window in the
13 three-dimensional display; and

14 ~~a positioning a three-dimensional sound~~ mechanism configured to ~~position~~
15 ~~the audio at the audio source location~~ use the call to the non-three-dimensional
16 audio API and the calculated audio source location in a three-dimensional sound
17 system to position audio from the application in a three-dimensional sound space;
18 ~~wherein the audio source location is associated with a location of the display~~
19 ~~window in the three-dimensional display.~~

1 22. (Original) The apparatus of claim 21, wherein intercepting
2 information about audio use involves intercepting an audio stream from the
3 application.

1 23. (Original) The apparatus of claim 21, wherein intercepting
2 information about audio use involves intercepting parameters associated with an
3 audio stream from the application.

1 24. (Original) The apparatus of claim 21, wherein obtaining location
2 information of the display window associated with the application involves
3 determining a set of coordinates on the three-dimensional display where the
4 display window is located.

1 25. (Original) The apparatus of claim 21, wherein calculating the audio
2 source location involves using the location of the display window to calculate
3 coordinates for the audio source location so that audio from the audio source
4 location appears to originate at the location of the display window.

1 26-28. (Cancelled)

1 29. (Original) The apparatus of claim 21, further comprising an
2 volume reducing mechanism configured to reduce the audio volume of other
3 applications when a given application is issuing a request for a warning tone,
4 wherein reducing audio volume of other applications causes the warning tone
5 from the given application to be predominant.

1 30. (Original) The apparatus of claim 21, wherein the positioning
2 mechanism is further configured to apply spatial audio effects to the audio that the
3 application is generating when a given application is issuing a request for user
4 attention or the three-dimensional window manager decides to get the user's
5 attention to a certain application running in the three-dimensional window,

- 6 wherein the spatial effects include panning the audio source location in the three-
7 dimensional space left and right repeatedly and rapidly.